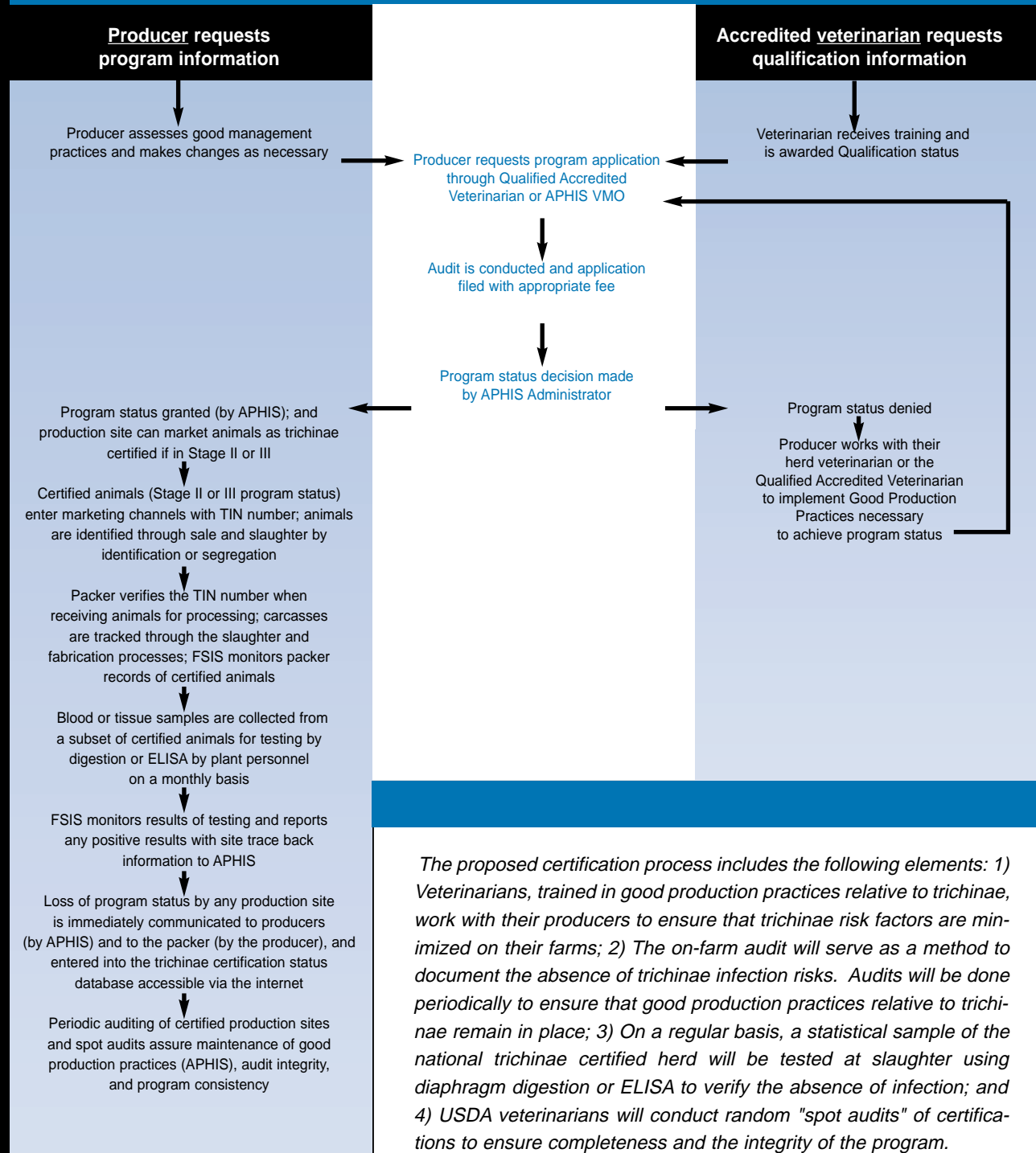


Flow of Events in Certification



The proposed certification process includes the following elements: 1) Veterinarians, trained in good production practices relative to trichinae, work with their producers to ensure that trichinae risk factors are minimized on their farms; 2) The on-farm audit will serve as a method to document the absence of trichinae infection risks. Audits will be done periodically to ensure that good production practices relative to trichinae remain in place; 3) On a regular basis, a statistical sample of the national trichinae certified herd will be tested at slaughter using diaphragm digestion or ELISA to verify the absence of infection; and 4) USDA veterinarians will conduct random "spot audits" of certifications to ensure completeness and the integrity of the program.

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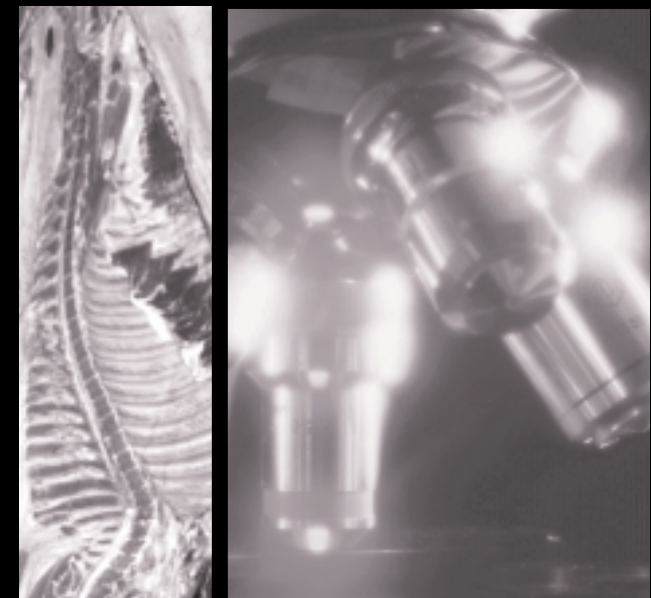
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TRICHINAE

HERD CERTIFICATION



The Trichinae Herd Certification Program is a pre-harvest pork safety program that will provide documentation of swine management practices which minimize risk of exposure of swine to the zoonotic parasite *Trichinella spiralis*. The program establishes a set of criteria that enable producers to market swine which are not considered a risk to human health due to exposure to this parasite. This program has been developed as a cooperative effort among the USDA agencies (Animal and Plant Health Inspection Service [APHIS], Agricultural Research Service [ARS], Cooperative States Research, Education and Extension Service [CSREES], Food Safety and Inspection Service [FSIS]) the National Pork Producers Council [NPPC], and the pork processing industry. The concept of risk management for control of *Trichinella* in the domestic swine population is endorsed by the U. S. Animal Health Association, the National Institute for Animal Agriculture and the American Association of Swine Practitioners. It is also recognized by the International Commission on Trichinellosis in their Recommended Methods for Control of *Trichinella* in swine. This Program is seen as model for future on-farm animal agriculture food safety programs.

Even with evidence that trichinae infection is becoming very rare, if not nearly non-existent in humans and swine, the perception of trichinae infections from pork still exists with some consumers. The lack of a national testing or on-farm program to address trichinae may also be an impediment to the U.S. Pork Industry reaching its full market potential internationally.

In response to consumer perceptions and to further the development of U.S. pork export markets, the National Trichinae Research Project (NTRP) was undertaken in 1994. This is an ongoing collaborative effort between the National Pork Producers Council (NPPC), government - USDA's Agricultural Research Service (ARS), Animal and Plant Health Inspection Service (APHIS) and Food Safety and Inspection Service (FSIS), and allied industry. The following sum-

marizes the project progress and program development to date.

Prevention of human trichinellosis resulting from the ingestion of pork is variously accomplished through meat inspection, through processing of pork products by heating, irradiating, freezing or curing, and through consumer education with respect to meat preparation. In modern pork production systems there is essentially no risk to pigs of acquiring *Trichinella* infection, and the absence of the parasite from domestic pigs raised in these systems has been established through extensive testing. Documentation of trichinae-safe good production practices is a viable economic alternative to individual carcass testing to assure product safety.

A pilot trichinae herd certification study was conducted in three states in the Midwestern U.S. (Iowa, Minnesota, South Dakota) to evaluate a process verification system for the production of trichinae-free pork. An on-farm audit, consisting of 55 questions, was developed for use in determining the presence of risk factors for exposure of pigs to potential sources of *Trichinella*. The audit was administered by trained, USDA accredited veterinary practitioners on 198 pork production sites in the 3-state area. All pigs raised on sites where audits were conducted were slaughtered at a single packing plant and a sample from each carcass was tested by pooled diaphragm digestion and an enzyme-linked immunosorbent assay (ELISA). Few production sites met all criteria established within the audit for risk-free man-

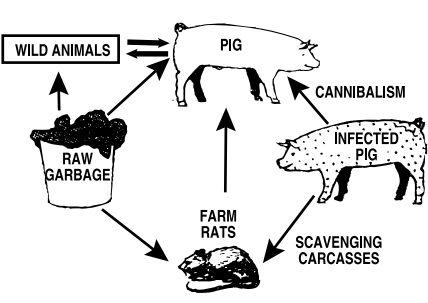
agement practices. Most of the deficiencies were noted in the lack of a regular rodent control program around swine rearing buildings. However, it was estimated that greater than 85% of these sites could meet good production practice criteria with minor improvements in management. From a total of 221,123 carcass samples tested from audited farms during a 6 month period, no *Trichinella* positive carcasses were detected by diaphragm digestion or

ELISA. Based on the outcome of this study, an improved, more succinct audit was developed with objective measures of good production practices which reduce or eliminate risk of exposure of pigs to sources of *Trichinella*. The new version of the audit will be used in the planned large-scale pork production chain pilots of the certification program that will lead up to the implementation of the voluntary program in the U.S.

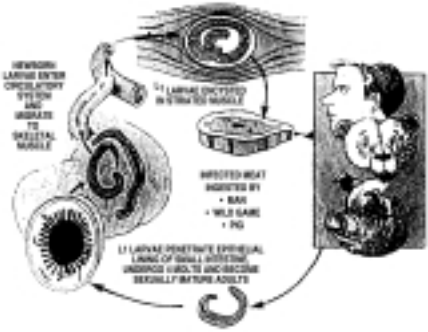
The large-scale pilots of the system will take place starting this summer with continuation through the end of 2001. These pilots will involve a packing plant in Minnesota and a packing plant in Iowa. The pilot production sites that supply pigs to these plants will be located in Iowa, Minnesota, Nebraska, and South Dakota. The pilots will follow the flow events as has been proposed for the program (see Flow of Events in Certification diagram). In order to test the flow of information for this program there may be some participation needed by the state

or federal regulatory offices in the states where the plants are located and in the states where the production sites are located.

Major Routes of Transmission of Trichinellosis to Swine.



Life Cycle of Trichinella spiralis.



PILOT TIMELINE

| | |
|-------------|---|
| June 1 | Producer participation contacts initiated (letter outlining objectives and procedures that will come from NPPC and the packing plants). |
| June 15 | Packers will follow up with a phone call to answer any questions. |
| June 30 | Producer and veterinarian educational packet delivered. |
| July 1 | Qualified accredited veterinarian training announcement release. |
| July 15 | Producer orientation sessions initiated. |
| July 30 | Qualified accredited veterinarian training sessions held. |
| August 20 | Qualified accredited veterinarian training sessions held. |
| October 20 | FSIS and plant personnel training. |
| November 1 | Plants testing systems set up. |
| November 20 | Trial sample collection and testing. Trial carcass tracking in the plant. Tracking database developed. |
| February | Pilot "certified" pigs begin coming into the plants and full system testing begins. |